

Remarks

The Applicants submit this Amendment, together with a Request for Continued Examination and the appropriate three-month extension of time. The Applicants have amended Claims 1, 2, 33 and 58 to remove the rejections under §112, to remove Nanto as prior art and/or distinguish over Shinoda.

With respect to the rejections under §112, Claims 1 and 2 have been amended to remove reference to “continuously” coating and Claims 1, 2, 33 and 58 have been amended to remove the “640 to 2000” language. The Applicants accordingly respectfully request withdrawal of the rejections under §112.

All of the dependent claims have been cancelled to simplify placing the Application into condition for allowance.

The Applicants acknowledge the rejections of various of the claims over Nanto taken alone or in combination with Ravi-Chandar, Mettenbrink, Osaka, Igarashi, Shinoda, Yamaura, Mizuno and Silverbrook. The Applicants respectfully submit that Nanto is not prior art. In that regard, the Applicants enclose a set of Tables for the Examiner’s consideration which provide a line by line description of the location of support for the language in Claims 1, 2, 33 and 58 from both the Applicants’ originally filed U.S. Specification (filed August 11, 1998) and the Applicants’ earliest priority application, JP 8-336713, filed December 17, 1996. Reference to those Tables shows support for all of the claimed subject matter in both the U.S. application and the priority application.

It should also be noted that the Applicants have filed a certified copy of the JP ‘713 priority application and a verified English translation. The earliest effective filing date of Nanto is January 27, 1997, which is well after the December 17, 1996 filing date of the Japanese priority document.

The Applicants accordingly respectfully submit that Nanto is not prior art. As a consequence, the

rejections based either solely on Nanto or in combination with the above-identified secondary references can no longer stand. Withdrawal of all of those rejections is accordingly respectfully requested.

The Applicants acknowledge the 35 U.S.C. §103 rejection of various of the claims over Shinoda. However, we respectfully submit that it would be nothing more than mere speculation, without support actually determined from the teachings and suggestions of Shinoda, that it would have been obvious to one of ordinary skill in the art to employ the claimed nozzle deposition system. There is simply nothing in the disclosure of Shinoda that teaches or suggests to one of ordinary skill in the art to provide a nozzle deposition system having a multiplicity of outlet holes as recited in Claims 1 and 2. In sharp contrast, Shinoda uses a completely different approach to achieve its goals, namely screen printing.

In any event, it is clear from the disclosure of Shinoda that there is no teaching or suggestion for there to be a nozzle deposition system to deposit phosphor paste onto a substrate having a plurality of barrier ribs. This is demonstrated by reference to Fig. 22A of Shinoda. It can be seen that the square squeezer 82 of Fig. 22A travels in the direction M1 and at a particular period of time squeezes phosphor paste 28a through a first outlet hole/slot on the left-hand portion of that Figure into a channel formed between adjacent ribs. Then, subsequent to the passage of the square squeezer 82 beyond that screen opening 81 on the left-hand portion of Fig. 22A, there is a discontinuation of application of phosphor paste into the channel from the screen opening 81 on the left-hand side of the Figure.

At the same time, there is no application of pressure or force to the paste 28a and, accordingly, there is no application of paste to the screen opening 81 on the right-hand side of Fig. 22A. Accordingly, Shinoda teaches a discontinuous or batch procedure wherein phosphor paste is

applied in an intermittent fashion to the channels as the square squeezer 82 passes across the surface of the screen 80 and intermittently applies phosphor paste to successive channels corresponding to screen openings 81. We accordingly respectfully submit that, there is no teaching or suggestion to utilize a nozzle deposition system having a multiplicity of outlet holes that applies paste from all of those outlet holes for each color of paste. As a consequence, we respectfully submit that the invention, as recited in Claims 1 and 2, would still not be taught or suggested by Shinoda irrespective of the existence of the screen of Shinoda. Withdrawal of the 35 U.S.C. §103 rejection based on Shinoda taken alone is accordingly respectfully requested.

The Applicants respectfully submit that the remaining rejections based on Shinoda are moot in view of the cancellation of the relevant claims.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



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Tables

Claim 1	JP '713 Priority Document	Applicants' U.S. Application
A method for producing a plasma display, comprising	All Claims; Title and paragraph 1 of Page 3	Title; Page 5, second full paragraph, lines 1–2; Page 17, last line; Claim 1, line 1
applying, in stripes between barrier ribs, a phosphor paste	Claim 3; Page 5, first and second full paragraphs; Page 7, first paragraph; Page 22, last paragraph; Page 23, second paragraph; Page 27, second paragraph; Page 28, last paragraph; Page 30, first full paragraph	Claim 1; second paragraph of the Abstract; Page 5, lines 9–12; Page 20, first full paragraph
containing a phosphor powder and an organic compound	Claims 5, 6 and 8; the paragraph spanning Page 7 and the text extending through Page 11 through the second full paragraph	Claim 29; Page 20, last paragraph through Page 23, first full paragraph
onto a substrate	Fig. 1; Claim 1, line 2; Page 4, lines 2 and 3 of the last paragraph; Page 5, line 5	Figs. 1–2; Page 15, item 4; the paragraph spanning Pages 17 and 18; first and second full paragraphs on Page 18
having a plurality of the barrier ribs formed thereon,	Fig. 1; Page 5, line 6; Page 6, second paragraph, line 4; Page 23, lines 3–6 of the second paragraph	Figs. 1–3; Page 5, first full paragraph, lines 4–5; Page 7, second full paragraph, all lines; Page 8, last paragraph; Page 9, first and second full paragraphs; Page 19, second full paragraph and paragraph spanning through Page 20; Page 46, last paragraph
from a multiplicity of outlet holes,	Page 6, lines 1 and 2; Page 23, lines 1 and 2; Page 27, last paragraph, lines 1 and 2; Page 29, paragraph 1; Page 38, 16–last line	Last paragraph of Page 5; Page 38, lines 16–23; Page 69, line 13; Page 71, line 10; Page 74, line 10; Page 75, line 4; Claims 5 and 6; Figs. 5 and 6
of an average diameter of 10 to 500 μm ,	Claim 1; Page 5, lines 1–3; Page 6, second paragraph	Page 5, lines 18–20; Page 38, lines 11–15; Page 60, third full paragraph
contained in a nozzle deposition system	Page 5, third paragraph; Page 22, last paragraph; Page 23, first paragraph; Page 27, last paragraph; Page 29, first paragraph; Page 30, second full paragraph; Fig. 1	Page 11, paragraphs (42) and (44); Page 61, last paragraph; Page 62, first paragraph; Figs. 3, 7 and 8
for at least one color of red, green or blue phosphor paste	Page 5, third full paragraph, lines 1–5 and 8–11; Page 7, third full paragraph, lines 1 and 2	Page 7, paragraph labeled “20”; Page 41, first full paragraph; Original Claim 24
such that the paste flows from all of the holes for the color(s) of the phosphor paste at the same time and between the barrier ribs.	Claim 2; Page 5, third full paragraph; Page 6, third full paragraph; Page 23, first paragraph; Fig. 1	Page 6, last paragraph; Original Claim 24; Page 25, third full paragraph; Page 37, paragraph spanning through Page 38; Page 49, last paragraph; Page 56, first full paragraph; Page 61, last paragraph

Claim 2	JP '713 Priority Document	Applicants' U.S. Application
A method for producing a plasma display, comprising	All Claims; Title and paragraph 1 of Page 3 Fig. 1; Page 5, line 6; Page 6, second paragraph, line 4; Page 23, lines 3-6 of the second paragraph	Title; Page 5, second full paragraph, lines 1-2; Page 17, last line; Claim 1, line 1
coating a substrate	Claim 2, lines 2-4; Page 6, third full paragraph	Claim 1, lines 2; line 2 of the second paragraph of the Abstract; Page 5, line 3; Page 39, last paragraph
having a plurality of adjacent barrier ribs,	Fig. 1; Page 5, line 6; Page 6, second paragraph, line 4; Page 23, lines 3-6 of the second paragraph	Figs. 1-3; Page 5, first full paragraph, lines 4-5; Page 7, second full paragraph, all lines; Page 8, last paragraph; Page 9, first and second full paragraphs; Page 19, second full paragraph and paragraph spanning through Page 20; Page 46, last paragraph
with three phosphor pastes respectively containing a phosphor powder emitting light of red, green or blue	Page 5, third full paragraph, lines 1-5 and 8-11; Page 7, third full paragraph, lines 1 and 2	Claim 29; Page 20, last paragraph through Page 23, first full paragraph
as stripes in spaces between said respectively adjacent barrier ribs,	Fig. 1; Page 5, line 6; Page 6, second paragraph, line 4; Page 23, lines 3-6 of the second paragraph	Fig. 1; Page 41, first full paragraph
from a multiplicity of outlet holes,	Page 6, lines 1 and 2; Page 23, lines 1 and 2; Page 27, last paragraph, lines 1 and 2; Page 29, paragraph 1, line 1	Last paragraph of Page 5; Page 38; lines 16-23; Page 69, line 13; Page 71, line 10; Page 74, line 10; Page 75, line 4; Claims 5 and 6
of an average diameter of 10 to 500 μm	Claim 1; Page 5, lines 1-3; Page 6, second paragraph	Page 5, lines 18-20; Page 38, lines 11-15; Page 60, third full paragraph
contained in a nozzle deposition system	Page 5, third paragraph; Page 22, last paragraph; Page 23, first paragraph; Page 27, last paragraph; Page 29, first paragraph; Page 30, second full paragraph; Fig. 1	Page 11, paragraphs (42) and (44); Page 61, last paragraph; Page 62, first paragraph; Figs. 3, 7 and 8
for at least one color of red, green or blue phosphor paste	Page 5, third full paragraph, lines 1-5 and 8-11; Page 7, third full paragraph, line 1 and 2	Page 7, paragraph labeled "20"; Page 41, first full paragraph; original Claim 24
such that the paste flows from all of the holes for the color(s) of the phosphor paste at the same time and between the barrier ribs,	Claim 2; Page 5, third full paragraph; Page 6, third full paragraph; Page 23, last paragraph; Fig. 1	Page 6, last paragraph; Original Claim 24; Page 25, third full paragraph; Page 37, paragraph spanning through Page 38; Page 49, last paragraph; Page 56, first full paragraph; Page 61, last paragraph
and heating to form a phosphor layer.	Claim 9, Claim 10, Page 5, last two lines, Page 6, last paragraph, Page 23, third full paragraph	Page 44, last paragraph

Claim 33	JP '713 Priority Document	Applicants' U.S. Application
An apparatus for producing a plasma display, comprising	Inherent from the method	Fig. 3
a nozzle deposition system	Page 5, third paragraph; Page 22, last paragraph; Page 23, first paragraph; Page 27, last paragraph; Page 29, first paragraph; Page 30, second full paragraph; Fig. 1	Page 11, paragraphs (42) and (44); Page 61, last paragraph; Page 62, first paragraph; Figs. 3, 7 and 8
having a multiplicity of outlet holes,	Fig. 1; Page 23, lines 1 and 2; Page 27, last paragraph, lines 1 and 2; Page 29, paragraph 1, line 1	Last paragraph of Page 5; Page 38, lines 16-23; Page 69, line 13; Page 71, line 10; Page 74, line 10; Page 75, line 4; Claims 5 and 6
of an average diameter of 10 to 500 μm ,	Claim 1; Page 5, lines 1-3; Page 6, second paragraph	Page 5, lines 18-20; Page 38, lines 11-15; Page 60, third full paragraph
for at least one color of red, green or blue to face a plurality of spaced apart barrier ribs located on a substrate,	Page 5, third full paragraph; lines 1-5 and 8-11; Page 7, third full paragraph, lines 1 and 2	Page 7, paragraph labeled "20"; Page 41, first full paragraph; Original Claim 24
wherein a phosphor paste supply is operatively connected to the nozzle deposition system	Page 27, first, second and third full paragraphs	Fig. 4; Page 50, first full paragraph
to supply paste to the substrate from all of the holes for the color(s) at the same time,	Claim 2, lines 2-4; Page 5, third full paragraph; Page 6, third full paragraph; Page 23, first full paragraph; Fig. 1	Claim 1, line 2; line 2 of the second paragraph of the Abstract; Page 5, line 3; Page 39, last paragraph
and a means for moving the substrate and the nozzle deposition system relative to each other.	Fig. 1 shows relative movement	Page 7, second and fourth paragraphs; Page 9, lines 17-19; Page 46, first full paragraph; Fig. 1 and Fig. 4

Claim 58	JP '713 Priority Document	Applicants' U.S. Application
An apparatus for producing a plasma display, comprising	Inherent from method	Fig. 3
three coating devices provided in series to deliver three phosphor pastes,	Page 5, lines 14-20	Fig. 7
said coating device comprising a nozzle deposition system with a multiplicity of outlet holes,	Page 6, lines 1-2; Page 23, lines 1 and 2; Page 27, last paragraph, lines 1 and 2; Page 29, paragraph 1, line 1	Last paragraph of Page 5; Page 38, lines 16-23; Page 69, line 13; Page 71, line 10; Page 74, line 10; Page 75, line 4; Claims 5 and 6
of an average of 10 to 500 μm ,	Claim 1; Page 5, lines 1-3; Page 6, second paragraph	Page 5, lines 18-20; Page 38, lines 11-15; Page 60, third full paragraph
for at least one color of red, green and blue arranged to face the barrier ribs of the substrate,	Page 5, third full paragraph, lines 1-5 and 8-11; Page 7, third full paragraph, lines 1 and 2	Page 7, paragraph labeled "20"; Page 41, first full paragraph; Original Claim 24
a supply means for supplying phosphor pastes to the nozzle deposition system	Page 27, first full paragraph	Fig. 4; Claim 1, line 2; line 2 of the second paragraph of the Abstract; Page 5, line 3; Page 9, lines 16-17; Page 39, last paragraph
such that paste flows from all of the holes for the color(s) of red, green and blue phosphor paste at the same time,	Claim 2; Page 5, third full paragraph; Page 6, third full paragraph; Page 23, first paragraph; Fig. 1	Page 6, last paragraph; Original Claim 24; Page 25, third full paragraph; Page 37, paragraph spanning through Page 38; Page 49, last paragraph; Page 56, first full paragraph; Page 61, last paragraph
and wherein a moving means for moving the substrate and the nozzle deposition system relative to each other, is provided.	Fig. 1 shows relative movement; the means to achieve the movement is inherent	Page 7, second and fourth paragraphs; Page 9, lines 17-19; Page 46, first full paragraph; Fig. 1 and Fig. 4